ABSTRACT – A STUDY OF SERUM ELECTROLYTES AND RED CELL DISTRIBUTION WIDTH IN ACUTE EXACERBATION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE PATIENTS

BACKGROUND

The aim of this study is to analyse the relationship between Red cell distribution width and serum electrolytes (serum sodium and potassium) with the severity of acute exacerbation in COPD patients.

MATERIALS AND METHODS

This is a comparative cross-sectional study of 100 cases managed for COPD with acute exacerbations in the medical ward of Coimbatore Medical College and Hospital and 30 age and sex matched healthy community controls. All the test done with due permission from the Institutional Ethical Committee and informed consent from the subjects.

RESULTS

In this study, we found that low levels of serum electrolytes(serum sodium and potassium) and higher levels of RDW were associated with increased severity of acute exacerbation of COPD as indicated by various indices like MMRC grading,6 minute walk tests, GOLD criteria and BODE index.

CONCLUSION

Variability in size of circulating RBCs increases as the severity of COPD increases and correlation was found between RDW and severity of COPD. Thus RDW can be used as a biomarker to assess the severity of COPD. Similarly serum sodium and serum potassium showed negative correlation with severity of acute exacerbation of COPD. Thus these values should also be closely monitored and correction should be made at the earliest to improve outcomes.

Keywords – Red cell distribution width,Serum electrolytes,COPD